26219
S/053/61/074/004/001/001
B102/B231

Methods of measuring the dielectric ...

reflected waves are described. 3) Methods for determining $\mathcal{E}$ by means of penetrating waves: The simplest experimental arrangements for measuring $\mathcal{E}$ and tan δ are described: 4) resonance methods permit the use of any transmission lines (twin-wire, coaxial, or waveguide). The methods differ in that the system is either completely or only partially filled with a dielectric. At frequencies $\gg 3 \cdot 10^9$ Mc, volume resonators are used for measuring $\mathcal{E}$, that is, two types of them: one type working on the basis of H_{011}-type waves, and the other working on the basis of E_{010}-type waves. Among other items, the semi-coaxial-type resonators of G. V. Zakhvatkin, which are used for measuring $\mathcal{E}$ and tan δ, are described in detail. The next part of the work discusses methods basing on the use of slow waves. Waves whose phase velocity is less than c are to be filed among this class of waves. 1) Measurement of $\mathcal{E}$ in solid dielectrics. a) The retarding spiral system is completely filled with a dielectric; b) determination of $\mathcal{E}$ in case of a gap existing between the cylindrical dielectric and the spiral. 2) Measurement of $\mathcal{E}$ in liquid dielectrics: a) The spiral is completely immersed in the dielectric; b) the liquid is contained in a tube. 3) $\mathcal{E}$-measurement by means of a spiral waveguide in a metal casing. 4) Determination of tan δ by the spiral-waveguide method;

Card 3/4

26219
S/053/61/074/004/001/001
Methods of measuring the dielectric ...   B102/B231

a) small and medium losses for cylindrical specimens with mounted spiral;
determination of tan δ of a dielectric placed in a dielectric tube on
which a spiral is mounted. 5) ε - measurement by means of a movable probe.
6) Determination of ε and tan δ by means of spiral and diaphragm
resonators; a) the resonator is made from a piece of coaxial spiral; b)
the resonator is made from a piece of diaphragm waveguide. All these
possibilities are briefly discussed, and the formulas required for the
determination of ε and tan δ are stated. V. N. Kessenikh, K. A.
Vodop'yanov, B. I. Romanov, N. V. Malcv, S. L. Sosinskiy, V. A. Dmitriyev,
B. K. Maybaum, and I. A. El'tsin are mentioned. There are 24 figures,
2 tables, and 77 references: 51 Soviet-bloc and 26 non-Soviet-bloc.
The most recent references to English-language publications read as
follows: Electr. a. Comm. 5, 24, (1957); D. M. Bowie, IRE Nat. Convent.
Rec. 5, 270 (1957); A. G. Mungall, J. Hart, Canad. J. Phys. 35, 995 (1957)

Card 4/4

31953

S/057/62/032/001/016/018
B111/B102

24,7700 (1035, 1043, 1055)

AUTHORS: Yatsuk, K. P., and Shestopalov, V. P.

TITLE: Variant of the resonator method for a spiral waveguide for measuring the dielectric constants of a substance at super-high frequencies

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 32, no. 1, 1962, 119 - 126

TEXT: The advantage of the given method consists in that the arrangement of a dielectric on the resonator axis impairs its quality only slightly. The Maxwell equations were solved for an anisotropically conductive cylinder and an ideal isotropic dielectric. The resonator was divided into three sections (Fig.1), into the dielectric (diameter 2b) within the spiral, into the space between dielectric and spiral (diameter 2a), and into the space between spiral and surrounding cylindrical metal casing (diameter 2R) and the solutions for $\vec{E}$ and $\vec{H}$ were adapted to the boundary conditions.

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Variant of the resonator method for....

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S/057/62/032/001/016/018
B111/B102

$$\varepsilon = \frac{2\Delta f}{f}\, \frac{\mu_1^b + \mu_0^b}{\mu_0^a - \mu_0^R - 2\frac{\Delta f}{f}\mu_0^b}, \qquad \mu_n^a = \frac{K_n\left(\frac{2\pi}{\lambda_f}x\right)}{I_n\left(\frac{2\pi}{\lambda_f}x\right)};$$

(9)

was derived for ε, I_n, K_n are the modified Bessel functions, λ_g is the wave-length of the lagging wave and Δf is the shift of the resonant frequency if a dielectric is introduced. $\tan\delta$ is calculated from $Q = \frac{\omega W}{P_S}$ and $\tan\delta = \delta/\omega\varepsilon$ where Q is the quality factor, W the energy accumulated in the resonator, P_s is the power loss. For small samples a formula for $\tan\delta$ could be derived by substituting the field quantities in W and P_s. In this case W and P_s were assumed to be sums of the W_i and P_{si}, respectively, in the three sections of the resonator. The measurement of $\tan\delta$ with known ε and λ_g is thus reduced to the measurement of the resonator quality

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Variant of the resonator method for....

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factor with and without dielectric

$$\tan\delta = \frac{1}{\varepsilon}\left(\frac{1}{Q_{\text{общ}}} - \frac{1}{Q'}\right)\frac{2a}{k_3 b^2}\left(G + M^2\frac{q_{01}^{aR}}{q_{00}^{aR}}\right).\qquad(16)$$

$$M = I_0(k_3 a) - \frac{(k_3 b)^2}{2}(1-\varepsilon)\,q_{00}.\qquad(A)$$

$$A_2 = A\left[1 + \frac{1}{2}k_3^2 b^2(1-\varepsilon)\ln\frac{k_3 b}{2}\right];\quad B_2 = \frac{1}{2}A(k_3 b)^2(1-\varepsilon),$$

$$a\Phi_1(a) = aA^2 G,$$

$$G = \left\{I_0(k_3 a) + \frac{1}{2}(k_3 b)^2(1-\varepsilon)\left[I_0(k_3 a)\ln\frac{k_3 b}{2} + K_0(k_3 a)\right][I_1(k_3 a) +\right.$$
$$\left.+\left(\frac{k_3 b}{2}\right)^2(1-\varepsilon)\left[I_1(k_3 a)\ln\frac{k_3 b}{2} - K_1(k_3 a)\right]\right\},$$

$$b\Phi_1(b) = bA^2\left\{1 + \frac{1}{2}(k_3 b)^2\left[\frac{1}{2}\ln k_3 b - \ln\frac{k_3 b}{2}\right]\right\}\left\{\frac{1}{2}k_3 b +\right.$$
$$\left.+\frac{1}{2}(k_3 b)^2(1-\varepsilon)\left[\frac{1}{2}k_3 b\ln\frac{k_3 b}{2} - \frac{k_3 b}{2}\right]\right\}.$$

(11a)

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Variant of the resonator method for....   B111/B102

$Q_{o6\mu}$ is the quality factor of resonator plus dielectric, Q' is the quality factor of the resonator for small specimens. λ_g was calculated from the number of half waves in the resonator which had been determined by means of a small disturbing body along the axis of the system, and from the resonator length. For checking purposes ε and $\tan\delta$ were measured for various solids and liquids and the correctness of the formulas was confirmed. There are 2 figures and 8 references: 5 Soviet and 3 non-Soviet. The two references to English-language publications read as follows: C. H. Collie, J. B. Hasted et al., Proc. Phys. Soc., 60, 1,337, 1948; Nalos, PIRE, 42 1508, 1954.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet im. A. M. Gor'kogo
              (Khar'kov State University imeni A. M. Gor'kiy)

SUBMITTED: November 9, 1960

Card 4/4

S/057/62/032/009/011/014
B117/B186

AUTHORS: Yatsuk, K. P., Shestopalov, V. P., and Lyashchenko, V. A.

TITLE: Limits of applicability of the method of a helical waveguide for the measurement of dielectric constants in matter

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 32, no. 9, 1962, 1102 - 1103

TEXT: It was shown from several measurements on specimens having known dielectric constants that the results of measuring ε of a VHF material under investigation depend on the geometry of the helix and specimen as well as on the frequency range used. In order to elucidate this influence and the limits of applicability for the formulas previously derived (V. P. Shestopalov, K. P. Yatsuk. ZhTF, XXIX, 7, 819, 1959; ZhTF, XXIX, 9, 1090, 1959), dispersion properties of the systems helix-dielectric and helix-laminated dielectric (liquid in a tube) were investigated by comparison of calculated and experimental dispersion curves. Conclusions: The calculated and experimental curves, observed in a certain frequency range, are in agreement if the ratio between the diameter of the specimen, 2a, and the length λ_g of the retarded wave is greater than unity. This confirms that

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Limits of applicability of the...   S/057/62/032/009/011/014
B117/B186

the above-mentioned formulas are valid for the respective range. The method of the helical waveguide can be used to measure the dielectric constant of solid dielectrics (rods or tubes with no clearance between them and the helix) up to wave lengths for which $2a/\lambda_g > 1$. The short-wave limit of applicability of this method lies in a range wherein n the wavelength and the pitch of the helix become commensurate. In certain ranges, the experimental and calculated dispersion curves could be made to agree for the system helix-laminated dielectric also. The width of these ranges depends on the interrelation between the dielectric constants of individual layers: $0.7 \le 2a/\lambda_g \le 1.5$ was obtained for $\varepsilon_{tube} > \varepsilon_{liq}$, and $0.9 \le 2a/\lambda_g \le 1.1$ for $\varepsilon_{tube} < \varepsilon_{liq}$. To extend the frequency limits when measuring the dielectric constant of liquids with large values of ε, it is necessary to choose tube material with still greater values of ε.

ASSOCIATION: Khar'kovskiy gosuniversitet imeni A. M. Gor'kogo (Khar'kov
State University imeni A. M. Gor'kiy)

Card 2/3

Limits of applicability of the...

SUBMITTED: June 17, 1961 (initially)
               January 11, 1962 (after revision)

S/057/62/032/009/011/014
B117/B186

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23725
S/057/61/031/006/009/019
B116/B203

9,1300

AUTHORS: Sedykh, V. M., Zorkin, A. F., Dmitriyev, V. M., Lyapunov,N.V.,
and Yatsuk, L. P.

TITLE: Parameters of H-shaped waveguides in millimeter and
centimeter wave bands

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 31, no. 6, 1961, 699-703

TEXT: The authors divide the papers theoretically determining the
parameters of H-shaped waveguides into two groups: (1) papers by foreign
authors: S. Cohn (Ref. 1: Proc. IRE, 35, 783-788, August, 1947),
K. Tomiyasu, L. Swern (Ref. 2: Proc. Nat. Electr. Cont., 10, 76-82, 1954),
S. Hopfer (Ref. 3: Trans. IRE, MMT-3, no. 3, 1955), using the method of
equivalent schemes; (2) papers by L. N. Deryugin (Ref. 4: Radiotekhnika,
no. 6, 1948), A. Ya. Yashkin (Ref. 5: Uch. zap. MGPI imeni Lenina, 101,
1957), N. F. Funtova (Ref. 6: Uch. zap. MGPI imeni V. I. Lenina, 88, 1954),
using the more accurate electrodynamic method of determining the eigen-
value (critical frequency) of the H-shaped waveguide (working on the basic
wave H_{10}). The authors of the present paper calculated the main parameters

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23725

Parameters of H-shaped waveguides ...

of H-shaped waveguides: the critical frequency, the damping constant, the peak power, and the characteristic resistance, from a uniform standpoint, on the basis of the solution of the field equations. They present the scheme of calculation, the final formulas for calculating the parameters of H-shaped waveguides, and numerical data of these parameters for some H-shaped waveguides developed and tested at the Khar'kovskiy universitet (Khar'kov University). When determining the critical frequency (the eigenvalue) χ , they only study the two ranges I and II (Fig. 1), and

obtain $$\frac{tg\,\chi a}{\chi} = \frac{g\,ctg\,\chi b}{\chi h} + \frac{2}{gh}\sum_{n=1}^{\infty}\frac{ctg\,s_n b}{s_n}\frac{\sin^2 p_n g}{p_n^2}.$$ (6)

for the calculation of χ in first approximation. $p_n = \frac{\pi}{h}$; $\chi^2 = p_n^2 + s_n^2$; $n = 0, 1, 2 \ldots$ In a similar way, they obtain the formula

$$\frac{ctg\,\chi a}{\chi} + \frac{g\,ctg\,\chi b}{\chi h} = \frac{2}{gh}\sum_{n=1}^{\infty}\frac{\sin^2 s_n g}{s_n^2}\frac{ctg\,p_n b}{p_n},$$ (7)

for an H_{20} wave. $s_n = \frac{\pi}{h}n$; $s_n^2 + p_n^2 = \chi^2$; $n = 0, 1, 2, \ldots$ In the practice, the H_{20} wave is the wave nearest to the basic wave (and

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Parameters of H-shaped waveguides ...

therefore the most dangerous one) for the dimensions of the cross section of H-shaped waveguides. Thus, the pass-band of the H-shaped waveguide is obtained by determining the critical frequencies of the waves H_{10} and H_{20} from (6) and (7). The other parameters of an H-shaped waveguide had been calculated in a paper by V. M. Sedykh (Ref. 7: Izv. vyssh. uchebn. zaved. MVO SSSR, Radiotekhnika, no. 3, 1959). Further studies, however, showed that more accurate results nearly equal to the test results were obtained by using the formula

$$W_{r.} = \frac{1}{2}\operatorname{Re}\int_s [\mathbf{EH}^*]\,ds. \tag{8}$$

for determining the power transmitted by a waveguide of complicated cross section. In this case, the damping constant α at frequencies higher than the critical one can be determined from

$$\alpha = \frac{1}{2}\frac{R_s \int_l |H_t|^2\,dl}{\operatorname{Re}\int_s [\mathbf{EH}^*]\,ds}. \tag{9}$$

where $R_s = \sqrt{\frac{\pi f \mu}{\sigma}}$. For an H-shaped waveguide,

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Parameters of H-shaped waveguides ...

$$a = \frac{R_s\left[\left(\frac{f_s}{f}\right)^2 V + U\right]}{T\sqrt{1-\left(\frac{f_s}{f}\right)^2}}.$$ (10)

is written down, where $V = \frac{g^2}{h^2}\frac{\cos^2 \varkappa a}{\sin^2 \varkappa b}\left[\frac{\sin 2\varkappa b}{\varkappa} + 2(h + d\cos^2 \varkappa b)\right] - \frac{\sin 2\varkappa a}{\varkappa}$,

$$U = a + \frac{\sin 2\varkappa a}{2\varkappa} + \frac{g^2}{h^2}\frac{\cos^2 \varkappa a}{\sin^2 \varkappa b}\left(b - \frac{\sin 2\varkappa b}{2\varkappa}\right),$$

$$T = 240\pi g\left[a + \frac{\sin 2\varkappa a}{2\varkappa} + \frac{g}{h}\frac{\cos^2 \varkappa a}{\sin^2 \varkappa b}\left(b - \frac{\sin 2\varkappa b}{2\varkappa}\right)\right].$$

For the peak power of the waveguide, $W_{\tau} = \frac{E^2}{2\eta}T\sqrt{1-\left(\frac{f_s}{f}\right)^2} = W_{\tau|\infty}\sqrt{1-\left(\frac{f_s}{f}\right)^2}$. (12)

is obtained, where $\hat{W}_{t_\infty} = \frac{E^2 T}{2\eta}$ is the peak power at an infinitely high

frequency, and $\eta_v = \sqrt{\mu_1/\varepsilon_1}$. In analogy to the rectangular waveguide, the

characteristic resistance Z is calculated from $Z = v_{eff}^2/W_t$ (13), where

v_{eff} is the maximum effective voltage between the steps and W_t is the

transmitted power. From (12) and (13), the authors obtain

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B116/B203

Parameters of H-shaped waveguides ...

$$Z = \frac{Z_{c\infty}}{\sqrt{1 - \left(\frac{f_c}{f}\right)^2}} \qquad (14)$$

for the H-shaped waveguide, where $Z_{c\infty} = \frac{4g^2 r_c^2}{T}$ is the characteristic

resistance of the H-shaped waveguide at an infinitely high frequency ($f=\infty$).
From formulas (6), (7), (10), (12), and (14), they compute the parameters
for six H-shaped waveguides, and plot the curves $\alpha(f)$. There are 4 figures,
2 tables, and 9 references: 5 Soviet-bloc and 4 non-Soviet-bloc.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet im. A.M. Gor'kogo
(Khar'kov State University imeni A. M. Gor'kiy)

SUBMITTED: July 11, 1960

Fig. 1
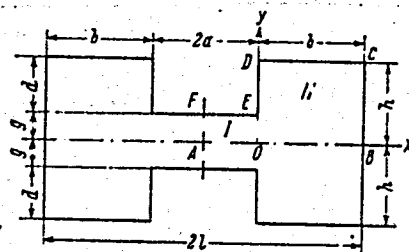
Card 5/5

ACCESSION NR: AR4023749   S/0274/64/000/001/A050/A050

SOURCE: RZh. Radiotekhnika i elektrosvyaz', Abs. 1A315

AUTHORS: Shubarin, Yu. V.; Yatsuk, L. P.

TITLE: Slot antenna with adjustable polarization diagram

CITED SOURCE: Uch. zap. Khar'kovsk. un-t, v. 132, 1962. Tr. radio-
fiz. fak., v. 7, 50-52

TOPIC TAGS: antenna, slot antenna, cruciform slot antenna, ellip-
ticity coefficient, iris diaphragm, inductive diaphragm, inductive
capacitive diaphragm, adjustable antenna polarization, antenna po-
larization

TRANSLATION: A method is described for regulating the ellipticity
coefficient of a cruciform slot antenna cut in the broad wall of a
rectangular waveguide. The best ellipticity coefficient is attained

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ACCESSION NR: AR4023749

by varying the field configuration inside the waveguide with the aid
of an inductive or inductive-capacitive diaphragm. It is ascertained
experimentally that the most effective action is produced by an in-
ductive-capacitive diaphragm. The best ellipticity coefficient is
obtained when the capacitive part of the diaphragm is in a ratio of
0.24 to the height of the waveguide. Three illustrations. Biblio-
graphy, 2 titles. B. T.

DATE ACQ: 03Mar64   SUB CODE: GE, SP   ENCL: 00

Card 2/2

ACCESSION NR: AR4023748   S/0274/64/000/001/A046/A047

SOURCE: RZh. Radiotekhnika i elektrosvyaz', Abs. 1A288

AUTHORS: Shubarin, Yu. V.; Yatsuk, L. P.

TITLE: Directional properties of a system of radiators arranged in checkerboard fashion

CITED SOURCE: Uch. zap. Khar'kovsk. un-t, v. 132, 1962. Tr. Radio-fiz. fak., v. 7, 191-198

TOPIC TAGS: antenna, antenna array, planar in phase antenna, check-erboard antenna, first order maximum, first order maximum suppres-sion, undesirable maximum suppression

TRANSLATION: The directional properties of a planar in-phase radi-ator array, arranged in checkerboard fashion, is investigated and the efficiency with which the first-order maxima are suppressed with its

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ACCESSION NR: AR4023748

aid is estimated. It is shown that when its directional properties
are calculated, such an array cannot be regarded as a linear system
of dipoles. The suppression of the first-order maxima in this array
takes place only in a plane passing through the normal to the array
plane, and first-order maxima can arise and attain intolerable
values in inclined planes. Computation graphs are obtained for es-
timating the level of the first-order maxima as functions of the
distance between the tiers in the checkerboard array. Undesirable
maxima can be suppressed with the aid of a second array located
alongside. This method is recommended if the distance between the
arrays can be made of the order of one-quarter wavelength. Six
illustrations. Bibliography, 5 titles. B. P.

DATE ACQ: 03Mar64   SUB CODE: GE, SP   ENCL: 00

Card   2/2

L 17292-63   BDS
ACCESSION NR: AP3004843   S/0141/63/006/003/0572/0580

AUTHOR: Sedy*kh, V. M.; Yatsuk, L. P.

TITLE: Parameters of dielectric-filled H-waveguide

SOURCE: IVUZ. Radiofizika, v. 6, no. 3, 1963, 572-580

TOPIC TAGS: H-waveguide, dielectric-filled waveguide

ABSTRACT: A theoretical investigation of an H_{10} mode in a dielectric-filled
H-shaped waveguide is presented; formulas for dispersion, characteristic imped-
ance, and maximum power are developed. It is found that, from a practical
viewpoint, the most interesting case is a partial (central gap only) filling of wave-
guide with dielectric. In this case, the working frequency band becomes wider,
and the characteristic impedance becomes lower and varies less within a wider
band. The partially-filled H-waveguide is considered particularly suitable for
superhigh frequencies. Orig. art. has: 7 figures and 19 formulas.

ASSN: Kharkov State University.

Card 1/2

AUTHOR: V   Tatsuk, L. P.

TOPIC TAGS:

6

first order increases and attains its greatest magnitude at $\varphi = \pm 90°$ (i.e., in

ACC NR: AT7005947   SOURCE CODE: UR/0000/65/000/000/0137/0141

AUTHOR: Shubarin, Yu. V.; Yatsuk, L. P.

ORG: none

TITLE: The possibility of measuring radiation coefficients of
cruciform slots taking into account their mutual interaction

SOURCE: Kharkov. Institut gornogo mashinostroyeniya, avtomatiki i
vychislitel'noy tekhniki. Radiotekhnika, no. 1, 1965, 137-141

TOPIC TAGS: microwave antenna, electromagnetic radiation, slot antenna,
circularly polarized antenna, rectangular waveguide, waveguide antenna, circular
waveguide, klystron, antenna power

ABSTRACT: The radiating properties of narrow slots crossed at right
angles and located in the broad wall of a rectangular waveguide section
were studied. Fifteen narrow crossed slots whose lengths increased
uniformly from 8 to 15.7 mm were cut along the center of the broad
flange of a rectangular waveguide with a 12.6 x 28.5-mm crossection.
The centers of the slots were spaced at 38.6 mm intervals to correspond
to the wavelength at 9375 MHz. The antenna formed by the slot array
was fed by a klystron oscillator on one end, and was terminated by a
matched load with a VSWR of 1.08 on the other. The ellipticity factors

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ACC NR: AT7005947

and amplitudes of the radiated power along the slotted waveguide were
measured with a waveguide probe consisting of a circular waveguide with
a plate that absorbed the undesired mode, a detector section, and a
measuring amplifier. Measurements were made at two frequencies: 9375
and 9272 MHz. For each frequency the antenna was fed both from the
side with smaller slots and from the side with larger slots. Since
these circularly-polarized slots are impedance-matched, the VSWR of
the antenna input was fairly good i.e., varied between 1.12 and 1.28
(the ellipticity factors did not go below 0.8). The radiated power
of most individual slots in the array was smaller than it would have
been for single slots because of their mutual interaction. As was
expected, the strongest interaction was observed among the center slots
of the array. The radiation factor was somewhat smaller when the
antenna was fed from the side with larger slots than when it was fed
from the smaller-slotted side. Orig art. has: 2 figures and 11
formulas.   [IV]

SUB CODE: 09/ SUBM DATE: none/ OTH REF: 001

Card   2/2

YATSUK, M.A.; SOLOMKO, V.Ya.

Scale formation on tungsten under atmospheric high temperatures.
Report No.1. Trudy IMA no.87:5-12 '59.   (MIRA 13:4)
(Tungsten--Corrosion)

18.8300

AUTHORS: Yatsuk, M. A., Solomko, V. Ya.

TITLE: Scale-formation on iron alloys with 5% tungsten in air at high temperatures

TEXT: An investigation was made into the kinetics of oxidation of binary alloys of Fe with 5% W in air at temperatures of 800, 850, 900, 960 and 1,000°C. The composition of the alloy is (in %): C - 0.19; Si - 0.34; Mn - 0.69; W - 5.11; P - 0.021; S - 0.033. The duration of the tests was 6 - 64 hrs. It was established that the oxidation is governed by the parabolic law. Comparison of the test results for the oxidation kinetics of Fe alloys with 14, 10 and 5% W shows that the oxidation rate of the alloy with 5% W is higher than that of the alloys with 14 and 10% W. Micrographic, chemical and X-ray structural analyses revealed the structure of the formed scale, which consists of three layers: the first - outer - layer consists of hematite, the second - inner - layer consists

Card 1/2

33855
S/137/62/000/001/213/237
A154/A101

Scale-formation on iron alloys with...

of magnetite, while the third layer, adjacent to the metal, consists of wustite with inclusions of WO_3 and its $FeWO_4$ salt. There are 6 references.

A. Babayeva

[Abstracter's note: Complete translation]

Card 2/2

S/080/62/035/010/010/012
D204/D307

AUTHORS: Yatsuk, N... and Solomko, V.Ya.

TITLE: The kinetics of the rate of oxidation of an iron
               alloy containing 9.77% tungsten, at 740 - 960°C

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 10, 1962,
               2336-2338

TEXT: The present work is part of a study of the behavior
of Fe alloyed with various metals, particularly W, at elevated tem-
peratures, in the presence of oxidizing atmospheres. The kinetics
of the aerial oxidation of an alloy containing 9.77 W, 0.19 C,
0.34 Si, 0.026 P, 0.043 S, and 0.55% Mn were studied at 740, 830,
900 and 960°C, by a thermobalance method, over 20 - 126 hours. The
specimens were in the form of 30.6 mm long cylinders, 8 mm in diam-
eter. The (gain in weight per unit area) versus time plots showed
that the weight increase was approximately linear at 740°C and ap-
proximately parabolic at and above 900°C, the velocity constants
(with rising temperatures) being 0.12, 0.8, 3.4 and 14.0. Arrhenius'

Card 1/2

The kinetics of the rate ...

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D204/D307

equation was obeyed. An induction period of 5 - 20 hours was obser-
ved, during which the oxidation was slow. Microscopic, chemical and
X-ray analyses showed that a three-layer scale formed on the speci-
mens: an outermost thin layer of Fe_2O_3, followed by a thick skin of
Fe_3O_4, followed by an innermost, heterogeneous coating of FeO con-
taining WO_3 or $FeWO_4$. There are 3 figures.

SUBMITTED: July 13, 1961

Card 2/2

/h i > v /i ,   /h . /v ,

USSR / Farm Animals. Small Horned Stock   Q

Abs Jour: Ref Zhur-Biol., No 5, 1958, 21470

Author   : Yatsuk M. N.
Inst   :
Title   : The Effect of Including Sulfur in the Diet of Karakul
           Sheep upon the Quality of Lambskins under Conditions
           of Southern Kazakhstan (K voprosu o vliyanii podkormki
           seroy na kachestvo smushka karakul'skikh ovets v
           usloviyakh yuzhnogo Kazakhstana)

Orig Pub: Karakulevodstvo i zverovodstvo, 1957, No 3, 46-50

Abstract: A flock of ewes (test group) was fed 3 g. of inorganic
          sulfur every second day starting from the 71st day
          after insemination and discontinuing it 7 days be-
          fore lambing time. The 84.8% of lambs belonging to
          the test group possessed more valuable curls (tight
          and average) as compared with 75% in the control group.

Card 1/1

YATSUK, M. N.: Master Biol Sci (diss) -- "The effect of feeding grits and sul-

fur on the quality of karakul sheep raised for fur on pastures under the con-

ditions of southern Kazakhstan". Moscow, 1958. 18 pp (All-Union Sci Res Inst

of Animal Husbandry) 150 copies (KL, No 1, 1959, 118)

YATSUK, N.G., gvardii mayor.

Communists as the leading force in socialist competition.
Vest. Vozd. Fl. 41 no.12:19-22 D '58.   (MIRA 11:12)
        (Russia--Air force) (Socialist competition)

UGRYUMOV, V.M., prof., otv. red.; BEKHTEREVA, N.P., doktor med. nauk,
    red.; VOLKOV, A./n., red.; DOLGOPOLOVA, G.A., red.; NIKIFOROV,
    B.M., red.; RACHKOV, B.M., red.; RASTORGUYEV, A.V., red.;
    TELEGINA, A.A., red.; YATSUK, S.L., red.; LEVIN, M.V., tekhn.
    red.

[Proceedings of the Fourth Joint Scientific Conference of Young
Neurosurgeons] Chetvertaia ob"edinennaia nauchnaia konferentsiia
molodykh neirokhirurgov, trudy. Leningrad. Medgiz. 1961. 414 p.
                                                    (MIRA 15:6)
1. Ob"yedinennaya nauchnaya konferentsiya molodykh neyrokhirurgov,
4th. 2. Leningradskiy neyrokhirurgicheskiy institut im. prof. A.L.
Polenova (for Volkov, Dolgopolova, Yatsuk,Rachkov)3.Laboratoriya opera-
tivnoy neyrokhirurgii Leningradckogo neyrokhirurgicheskogo insti-
tuta imeni prof. A.L.Polenova   (for Nikiforov, Telegina). 4. Ka-
fedra operativnoy khirurgii pediatricheskogo meditsinskogo instituta,
Leningrad (for Nikiforov, Telegina, Yatsuk). 5. Direktor Leningrad-
skogo nauchno-issledovatel'skogo neyrokhirurgicheskogo instituta
im. prof. A.L.Polenova (for Ugryumov).
                (NERVOUS SYSTEM---SURGERY)

VOLKOV, A.A.; YATSUK, S.L.

Technique of pallidotomy using the stereoencephalotome de-
signed by the Scientific Research Institute for Experimental
Surgical Apparatus and Instruments. Eksper. khir. i anest.
no.1:12-18'63.   (MIRA 16:10)

1. Iz laboratorii operativnoy neyrokhirurgii (zav. - prof.
Ye.M.Margorin) Leningradskogo nauchno-issledovatel'skogo ney-
rokhirurgicheskogo instituta imeni prof. A.L.Polenova (dir.
deystvitel'nyy chlen AMN SSSR prof. V.N. Shamov)
                    (BRAIN—SURGERY)
          (SURGICAL INSTRUMENTS AND APPARATUS)

AFANAS'YEV, B.L.; YAROSLAVTSEV, G.M.; YATSUK, V.I.

Conditions governing the formation of coal-bearing sediments in foredeeps as revealed by the Pechora Basin. Mat.po geol.i pol.iskop.-Sev.-Vost.Evrop.chasti SSSR no.1:5-22 '61.   (MIRA 14:11)
(Pechora Basin--Coal geology)

AFANAS'YEV, B.L.; YAROSLAVTSEV, G.M.; YATSUK, V.I.

Problems of the origin of a coal-bearing layer in the Pechora
Basin. Sov. geol. 7 no.3:58-65 Mr '64.   (MIRA 17:10)

1. Vorkutskaya kompleksnaya ekspeditsiya.

AFANAS'YEV, B.L., red.; YAROSLAVTSEV, G.M., red.; YATSUK, V.I.,
    red.; AMMOSOV, I.I., red.

[Geology of coal and oil shale deposits of the U.S.S.R.]
Geologila mestorozhdenii uglia i goriuchikh slantsev SSSR.
Moskva, Nedra. Vol.3. 1965. 488 p.   (MIRA 18:5)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy geologicheskiy
komitet.

CHEREDNIK, I.M.; YATSUK, V.V.

Regularities of selenium transition to the gas phase in the
oxidizing roasting of selenide and selenium-containing lead
sulfide. Zhur.prikl.khim. 38 no.9:1922-1930 S '65.

(MIRA 18:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy gornometallurgicheskiy
institut tsvetnykh metallov.

GETSKIN, L.S.; YATSUK, V.V.; PANTELEYEVA, A.P.

Hydrometallurgical method of producing lead using amines.
TSvet. met. 38 no.5:20-22 My '65.   (MIRA 18:6)

GETSKIN, L.S.; YATSUK, V.V.

Speed of formation of selenium dioxide during the interaction of
elementary selenium with strong sulfuric acid. Izv.AN Kazakh.SSR.
Ser.met., obog.i ogneup. no.2:39-42 '61.   (MIRA 14:8)
                    (Selenium--Metallurgy)

GETSKIN, L.S.; YATSUK, V.V.; PONOMAREV, V.D.

Thermodynamic analysis of the interaction of heavy nonferrous
metal sulfides with sulfuric acid. Izv. vys. ucheb. zav.;
tsvet. met. 4 no.4:53-56 '61.   (MIRA 14:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut tsvetnykh
metallov i Kazakhskiy politekhnicheskiy institut. Rekomendovana
kafedroy metallurgii legkikh i redkikh metallov Kazakhskogo
politekhnicheskogo instituta.
            (Sulfides—Metallurgy) (Thermal analysis)   -

AUTHORS: Getskin, L. S., Yatsuk, V. V.

TITLE: The rate of selenium dioxide formation during the interaction of elementary selenium with strong sulfuric acid

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1962, 25 , abstract 3G162 ("Izv. AN KazSSR. Ser. metallurgii, obogashcheniya i ogneuporov", 1961, no. 2, 39 - 42. Kaz. summary)

TEXT: The following method was used for the experiment. A given amount of elementary Se was mixed with an amount of H_2SO_4 calculated from the reaction $Se + 2H_2SO_4 \rightarrow SeO_2 + 2SO_2 + 2H_2O$; the mixture was roasted in a tubular furnace. The experiments were carried out at 300, 350 and $400°C$. At these temperatures, SeO_2 formed by the reaction, was almost completely driven-off at the end of the experiment. On the basis of experimental data it was established that the reaction rate of SeO_2 formation increased considerably with higher temperature. The magnitude of apparent energy of activation is equal to 5910 cal/mole; this proves that the reaction of SeO_2 formation proceeds in the diffusion range.

[Abstracter's note: Complete translation]   G. Svodtseva

Card 1/1

GETSKIN, L.S.; YATSUK, V.V.

Relative reaction rates of some selenides and elementary selenium with sulfuric acid. Zhur.prikl.khim. 35 no.11:2546-2548 N '62. (MIRA 15:12)
  (Selenides) (Selenium) (Sulfuric acid)
    (Chemical reaction, Rate of)

YUDOVICH, V.G.; KHLEBORODOV, A.D.; SOLONEVICH, Ye.A.; VEYTS, V.L.;
        PANOV,F.S.; BELYAYEV, A.N.; ALAD'IN, O.I.; OSIPOV, V.F.;
        VOROB'YEV, A.I.; PROKOF'YEV, Yu.V.; SOLOV'YEV, Yu.A.;
        KUZ'MIN, A.V.; ZHIDONIS, V.Yu.; ZOLIN, A.V.; YATSUK Ye.P.
        DOBROSLAVSKIY, V.L.; TROFIMOV, Ye.N.; DRYAGIN, Ye.R.;
        KOROLEV, V.F.; KERIMOV, N.B.; KRAVCHENKO, A.S.; RIVLIN, V.A.;
        GURCHENKO, A.P.; KRUGLIKOV, T.P.; CHERNYAKOV, F.A.; ARKHIPOV,
        N.K.

        Authors' certificates and patents. Mashinostroenie no.1:101-
        103 Ja-F '65.   (MIRA 18:4)

YATSUK, Ye.P., kand. tekhn. nauk

Recent developments in technology. Zemledelie 26 no.5:
75-81 My '64.
(MIRA 17:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut kormov.

YATSUK, Ye.P.

New machinery for the improvement of meadows. Dokl. Akad. sel'khoz.
22 no.12:36-41 '57.   (MIRA 11:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut kormov imeni
V.P. Vil'yamsa. Predstavlena akademikom A.N. Karpenko.
              (Meadows)   (Agricultural machinery)

YATSUK, Ye.P., Cand Tech Sci -- (diss) "Study of the technological process of performance of the meadow aggregate AZU-2 in cultivating new meadow and pasture lands."

Mos 1958, 22 pp. with illustrations (Min of Agr USSR.

All-Union Order of Lenin of Acad of Agr Sci im V.I. Lenin.

All-Union Si Res Inst of Hydraulic Engineering and Improvement

im A.N. Kostyakov) 110 copies (KL, 39-58, 110)

- 51 -

YATSUK, Ye.P., inzh.

AZU-2 surface tillage and sowing unit for meadows. Trakt. i
sel'khozmash. no.1:25-27 Ja '58.   (MIRA 11:4)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut kormov imeni
V.P. Vil'yamsa.
            (Pastures and meadows)
            (Agricultural machinery)
            (Drill (Agricultural implement))

YATSUK, Ye.P., kand.tekhn.nauk

Problems in the development of multipurpose agricultural machines.
Trakt. i sel'khozmash. no.11:13-15 N '64.

(MIRA 18:1)

VOSHCHININ, P.A., kand. sel'khoz.nauk; GRINCHUK, I.M., inzh.;
ZHURAVLEV, A.A., kand. sel'khoz. nauk; KARAVYANSKIY,
N.S., kand. sel'khoz. nauk; SHAIN, S.S., doktor sel'-
khoz. nauk, prof.[deceased]; YATSUK, Ye.P., kand. tekhn.
nauk; ANTONOVA, M.M., red.; GINZBURG, A.S., tekhn.red.
KOBYAKOVA, G.N., tekhn. red.

[Seed production of meadow grasses] Semenovodstvo lugovykh
trav. [By] P.A.Voshchinin i dr. Moskva, Sel'khozizdat,
1963. 151 p.   (MIRA 17:4)

YATSUK, Ye.P., kand.tekhn.nauk; YEFIMOV, D.N.

Studying the process of soil cutting with the knives of a helicoidal cutter. Trakt. i sel'khozmash. 33 no.12:17-18 D '63. (MIRA 17:2)

S/080/61/034/012/003/017
D202/D305

AUTHORS: Getskin, L.S., Yatsuk, V.V., and Savrayev, V.P.

TITLE: The recovery of elemental selenium and of selenium dioxide from gases by a condensation method

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 12, 1961, 2609 - 2613

TEXT: The factors investigated were: Temperature, gas flow and the concentration of the above susbstances in the gaseous phase. Expe-riments were carried out on a laboratory scale. ^{75}Se was used as an indicator in both cases, the activity of specimens being measu-red on radiometer B-2 (B-2) with an MC-7 (MS-7) counter. The speci-fic radioactivity of the tested selenium samples was 11800 imp/min. g. and that of SeO_2 varied between 14200 and 596000 imp/min.g. Ex-periments with Se were carried out in a current of N_2 and those with SeO_2 in purified, dry air. The flow velocities were 0.7, 0.33 and 0.08 m/sec. which are similar to those used in industry. The results concerning the effects of flow velocity and of the tempera-

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S/080/61/034/012/003/017
D202/D305

The recovery of elemental selenium ...

ture are given in full. It is shown that at gas velocities of 0.7 m/sec (starting Se concentration 5 g/nm³), 0.33 m/sec (starting Se concentration 11 g/nm³) and 0.08 m/sec (starting Se concentration 40 g/nm³) the amounts of unrecovered Se were 3.6, 1.7 and 1.0 % respectively. With increased current velocities the zone of almost full condensation was shifted from about 200°C for 0.08 and 0.33 m/sec towards a lower temperature of 150°C for 0.7 m/sec. The experiments with SeO₂ condensation were carried out under the same conditions; the results obtained have proved that SeO₂ requires a much lower temperature for its full recovery: 100°C for gas velocities of 0.08 and 0.33 m/sec and about 80°C for that of 0.7 m/sec. In order to check the effect of the starting concentration another series of tests was carried out with 0.1 g/nm³ of SeO₂ at an air current of 0.7 m/sec. It was found that at 68-50°C 97.2 % of SeO₂ was condensed. For a full recovery of SeO₂, therefore the condensation temperature has to be about 100°C lower than that for metallic selenium. There are 3 figures, 2 tables and 2 references: 1 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language

Card 2/3

The recovery of elemental selenium ...   S/080/61/034/012/003/017
D202/D305

publication reads as follows: L.S. Brooks, J. Am. Soc., 74, 1, 227, 1952.

SUBMITTED: February 6, 1961

Card 3/3

Yarsuk, Ye. V.

CHUGUNOV, I.G.; YATSUK, Ye.V.

Decantation and a system for purifying the juice. Sakh.prom. 27 no.7:27-
(MLRA 6:6)
29 Jl '53.

(Sugar industry)

1. Zherlevskiy sakharnyy zavod.

YATSULA, G.S.

Device for the determination of gas exchange in laboratory animals.
Lab. delo no.1:53 '64.   (MIRA 17:4)

Subject   : USSR/Medicine   AID P - 2634

Card 1/1   Pub. 37 - 11/22

Author   : Yatsula, G. S., Scientific Worker

Title   : Ultraviolet radiation in Kiyev and its hygienic
              characteristics

Periodical : Gig. i san., 8, 46-48, Ag 1955

Abstract   : Describes investigations of ultraviolet radiation in
              the climatic conditions of Kiyev performed in 1951-
              1952 by means of the oxalic acid method (the compo-
              sition of the solution is given). Diagrs.

Institution : Chair of General Hygiene, Kiyev Order of the Red
              Banner of Labor Medical Institute

Submitted : N 5, 1954

YATSULA, G.S., kand.med.nauk

Simplified method for coating quarts tubes for measuring ultra-
violet radiation of the sun and sky. Vrach.delo no.10:1065 O '57.

(MIRA 10:12)

1. Kafedra obshchey gigiyeny (zav. - prof. P.I.Barannik) Kiyevskogo
meditsinskogo instituta.
        (ULTRAVIOLET RAYS--MEASUREMENT)

YATSULA, G.S., kand.med.nauk

Erythemal effect as a seasonal function of ultraviolet irradiation.
Vrach.delo supplement '57:109   (MIRA 11:3)

1. Kafedra obshchey gigiyeny Kiyevskogo meditsinskogo instituta.
        (ULTRAVIOLET RAYS) (ERYTHEMA)

YATSULA, G.S.

Manganese content of Dnieper River water and tap water in Kiev. Gig.
i san. 24 no.9:78 S '59.
(MIRA 13:1)

1. Iz Kiyevskogo meditsinskogo instituta.
(UKRAINE--WATER)   (MANGANESE)

BARANNIK, P.I., prof.; MIKHALYUK, I.A., dotsent; MNATSAKANYAN, R.P., assistent;
    TSVETKOVA, I.N.; YATSULA, G.S.

Zinc, manganese, cobalt, and iodine in potable artesian water in Kiev.
Gig. i san. 26 no.4:95-97 Ap '61.   (MIRA 15:5)

1. Iz kafedry obshchey gigiyeny Kiyevskogo meditsinskogo instituta.
                    (KIEV—WATER—ANALYSIS)

YATSUN, A.V.; LEVCHENKO, L.I.

Additional services in communications, servicing of equipment,
and growth of communication districts. Vest.sviazi 21 no.10:
17 0 '61.   (MIRA 14:10)

1. Nachal'nik Cherkasskoy kontory svyazi (for Yatsun).
2. Predsedatel' mestkoma Cherkasskoy kontory svyazi (for Levchenko).
                    (Telecommunication)

ANTIPOVA-KARATAYEVA, I.I.; KUTSENKO, Yu.I.; YATSUN, G.I.

Hydration of vanadyl ions in aqueous solutions studied with
the aid of optical absorption spectra. Zhur. neorg. khim. 7
no.8:1913-1916 Ag '62.   (MIRA 16:6)

(Vanadium compounds)   (Hydration)

KHAZAN, G.L.; VYCHEGZHANIN, A.G.; SHAPOSHNIKOV, I.I.; MIKHAYLOVSKAYA, Ye.F.;
YATSUN, K.R.

Improving the sanitary conditions of work with sandblasting machines.
Lit. proizv. no. 5:42-43 My '61.   (MIRA 14:5)
                    (Founding--Hygienic aspects)

S/196/63/000/002/005/026
E194/E155

AUTHOR: Yatsun, M.A.

TITLE: An approximate analytical expression for the
            magnetisation curve of electrical steel

PERIODICAL: Referativnyy zhurnal, Elektrotekhnika i energetika,
            no.2, 1963, 3, abstract 2 B 22. (Dokl. L'vovsk.
            politekhn. in-ta, v.5, no.2, 1962.
            Elektrotekhnika, 62-68).

TEXT: Consideration of the physics of magnetisation
processes at various parts of the induction curve of sheet
electrical steel suggests an empirical formula to approximate the
total induction curve:

$$B = J_\infty + \mu'_o H - \sum_{k=1}^{k=3} A_k \exp\left(-H/\alpha_k\right)$$

where A_k and α_k are constants for a given grade of steel (in
gauss and A/cm respectively).
Card 1/2

An approximate analytical ...   S/196/63/000/002/005/026
                                              E194/E155

The induction curve of steel grade   Э 330 (E 330) constructed by
this formula is shown graphically to fit the actual curve better
than one constructed by the existing formula.
3 figures, 1 table. 4 references.

[Abstractor's note: Complete translation.]

Card 2/2

PATKANOV,N.M.; YATSUN,N.F.; DVORETSKIY,I.V., inzhener; SOKOLOV,S.P.,
    inzhener

    Determining the shape of shuttle tips for the picking mechanism of
    type-H automatic looms. Tekst.prom.15 no.8:30-32 Ag '55.
                                                    (MLRA 8:11)

    1. Glavnyy inzhener fabriki imeni Dzerzhinskogo Glavlenkhlcpproma
    (for Patkanov) 2. Nachal'nik tkatskogo tsekha fabriki imeni Dzer-
    zhinskogo Glavlenkhloпproma (for Yatsun).
                        (Pickers (Weaving))

KULIGIN, Aleksandr Vasil'yevich; GNEZDEVA, M.F., retsenzent; YATSUN, N.F., retsenzent; KANUNNIKOV, I.V., retsenzent; AKSENOVA, I.I., red.; MEDVEDEV, L.Ya., tekhn.red.

[AT-100-2 and ATK-100 automatic looms] Avtomaticheskie tkatskie stanki AT-100-2 i ATK-100. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po legkoi promyshl., 1958. 265 p.   (MIRA 12:3)
(Looms)

AUTHORS: Yatsunov, I. A., Belenko, M. D.   SOV/72-58-8-12/17

TITLE: Certain Characteristic Features of Melting Aluminum-Magnesium Glass Using Aluminum Hydroxide (Nekotoryye osobennosti varki alyumomagnezial'nogo stekla s primeneniyem gidrata okisi alyuminiya)

PERIODICAL: Steklo i keramika, 1958, Nr 8, pp. 37-39 (USSR)

ABSTRACT: The Kiyev Factory for Glass Containers used a soda-sulfate charge with introduction of Na_2O through soda and sulfate at a ratio of 65:35. The chemical composition of the other materials is mentioned in table 1. Because of the high iron content in the raw materials the glass ware was produced of semiwhite glass. The main mass of the iron oxide is introduced into the glass by vulcanic ashes. It was decided to replace the same by aluminum hydroxide from the Ural Aluminum Plant, and to decrease the amount of Na_2O introduced through sulfate to 15%. In this factory the glass is molten in a tank furnace; the melting surface is 100 m^2 and its working surface is 26 m^2. The natural gas of the Dashavo deposit (98% CH_4 and 2% C_nH_m) is used. The maximum melting temperature amounted to 1460 ± 10° in the case of a charge of 75% and a waste of 25%. In order to avoid an

Card 1/3

Certain Characteristic Features of Melting
Aluminum-Magnesium Glass Using Aluminum Hydroxide

SOV/72-58-8-12/17

abrupt change of the glass properties it was decided to replace
the volcanic ashes by aluminum hydroxide gradually in the course
of 3 weeks. After raising the melting temperature to 1480 $\pm$ 10°
and decreasing the addition of Na_2O through sodium sulfate the
furnace worked well for the time being. After an operation of
one and a half months the waste by stone inclusions in the
finished product suddenly increased considerably. Together with
the Scientific Research Laboratory of the Administration of
Faience, Porcelain and Glass Industry ($N_a$uchno-issledovatel'-
skaya laboratoriya Upravleniya farforo-fayansovoy i stekol'noy
promyshlennosti) chemical and petrographic investigations were
carried out. The chemical composition of the defective material
investigated is mentioned in table 2. The chemical analyses
were carried out by the chemist of the Kiyev Factory for Glass
Containers A.F. Khomenko (Ref 1). The investigations of the
sections showed a peculiar character of the mineral formation.
Under the assumption that the inclusions were caused by an
incomplete melting of aluminum hydroxide the added amount of
aluminum hydroxide was reduced from 3,2 to 2,3%. Besides, the

Card 2/3

Certain Characteristic Features of Melting Aluminum-   SOV/72-58-8-12/17
Magnesium Glass Using Aluminum Hydroxide

aluminum hydroxide was dried in a steam drying plant at 100°
and was sieved through a sieve with 81 holes/cm^2. After three
days the waste decreased from 20 to 6,8%, and further to 1,1%.
The authors recommend the following composition of the glass:
72,6-72,8% SiO$_2$; 2,2-2,3% Al$_2$O$_3$; 8,7-8,9% CaO+MgO; 15,8-16% R$_2$O.
The editor recommends a sieve with 144-196 holes/cm^2,a pre-
vious mixing with soda as well as the introduction of 0,4-0,5% F,
which would imply a reduction of the Al$_2$O$_3$ and would exert a
favorable effect on the glass properties. There are 2 tables.

ASSOCIATION: Kiyevskiy steklotarnyy zavod (Kiyev Factory for Glass Con-
tainers)

1. Aluminum magnesium glass--Melting   2. Aluminum hydroxide--Per-
formance   3. Glass--Production

Card 3/3

ZHUKOV, A.V.; SAKHAROVA, N.A.; SHELUNTSOV, V.I.; INOSOVA, N.L.; YATSUNOVA, G.Ye.

Colored facing tile of semi-dry pressing from tile raw material.
Stroi. mat., det. i izd. no. 2:91-105 '65   (MIRA 19:1)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut stroitel'-
nykh materialov i izdeliy, Kiyev. (for Zhukov, Sakharova). 2.
Kiyevskiy eksperimental'no-issledovatel'skiy zavod (for Shelun-
tsov, Inosova, Yatsunova).

ROZENFEL'D, Lev Markovich, prof., doktor tekhn.nauk; TKACHEV, Anatoliy
Georgiyevich, prof., doktor tekhn.nauk; GUREVICH, Yevgeniy
Semenovich, inzh.; ONOSOVSKIY, V.V., inzh.; SERDAKOV, G.S., inzh.;
TSYRLIN, B.L., inzh.; KALNIN', I.M., inzh.; ROMANOVSKIY, N.V., inzh.;
YATSUNOV, I.F., inzh.; DANILOVA, G.N., dotsent; MIKHAL'SKAYA, R.N.,
inzh.; KARNAUKH, M.S., inzh.; STUKALENKO, A.K., inzh.; IL'IN, A.Ya.,
inzh.; TSIPERSON, A.L., red.; BABICHEVA, V.V., tekhn.red.

[Examples and designs of refrigerating machines and apparatus]
Primery i raschety kholodil'nykh mashin i apparatov. Moskva, Gos.
izd-vo torg.lit-ry, 1960. 237 p. [__Thermodynamic diagrams of
the refrigerants used] __Termodinamicheskie diagrammy rabochikh
tel kholodil'nykh mashin.   (MIRA 13:9)
         (Refrigeration and refrigerating machinery)

KOMSKAYA, M.S. [Koms'ka, M.S.], kand.tekhn.nauk; SHKOL'NIK, A.Ya.
[Shkol'nyk, H.IA.]; SHPAK, N.A. [Shpak, N.P.]; YATSUNOVA, S.Ye.
[IAtsunova, S.IU.]

Method for the regulation of the addition of electrolytes
to porcelain slips. Leh.prom. no.1:63-66 Ja-Mr '64.
(MIRA 19:1)

YATSUNOVICH, M. (gor. Sasovo).

YATSUNOVICH, M. (gor. Sasovo).

Creative approach to work. Grazhd. av. 14 no.3:15 Mr '57.
(Aeronautics—Study and teaching)   (MIRA 10:6)
(Helicopters)

YATSUNOVICH, M., starshiy propodavatel'

Ground resonance of the Mi-4 helicopter. Grazhd. av. 22 no.2:
19-20 F '65. (MIRA 18:5)

1. Kremenchugskoye letneye uchilishche grazhdanskoy aviatsii.

YATSUNSKAYA, A. G., SHORYGINA, N. N. Y POGOBIN, Z. A.

26974

Poluchenie Preparatov Dialbdegilts-ellyuoey i EE Efifor (Sooshch. 25). Zhurnal
Prikl., 1949, No. 8, S. 865-73. - Bibliogr: S. 873

SO: LETOPIS NO. 34

4. Geologo-Geografichesykie Nauki
    Palenntologiya - SM XV, 5B

a. Geologo-Geograficheskie Nauki V Tselom. Geologiya. Petrografiya.
    Mineralogiya, Kristallografiya

YATSUNSKAYA, C. I., Engr.   Cand. Tech. Sci.

Dissertation: "Certain Physicochemical Characteristics of Chromium-Containing Slags
Obtained in Remelting a High-Chromium Charge in Basic Open-Hearth Furnaces."
Moscow Order of the Labor Red Banner Inst of Steel imeni I. V. Stalin, 1 Jul 47.

SO: Vechernyaya Moskva, Jul, 1947 (Project #17836)

166T57

YATSUNSKAYA, O. I.

USSR/Metals - Testing Equipment   Jul 50

"Viscosimeter for Molten Slags, Based on the
Principle of Torsional Vibrations," M. P. Volaro-
vich, O. I. Yatsunskaya, "Serp 1 Molot" Metal-
lurgical Plant

"Zavod Lab" Vol XVI, No 7, pp 813-818

Describes torsional pendulum type of viscosimeter
for molten slags and methods for its application.
To obtain values of viscosity in absolute units,
poises, instrument is calibrated against liquids
of known viscosity: water, aniline, mercury and

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castor oil. Density of molten slags, which has
to be known for calculation of their viscosity,
is determined with aid of dilatometer.

166T57

166T57

YATSUNSKAYA, O. I.

Rapid smelting in an openhearth furnace   Moskva, Gos. nauchno-tekhn.
izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1952.   19 p.
(Peredovye metody truda)

(53-38262)

TN740.I2

YATSUNSKAYA, O. I.

Primenenie kisloroda v martenovskom proizvodstve /_Use of oxygen in the open-hearth process_/. Moskva, Metallurgizdat, 1952. 160 p.

SO: Monthly List of Russian Accessions, Vol. 7 No. 2 May 1954.

LEBED'KOV, A.A., inzhener; YATSUNSKAYA, O.I., kandidat tekhnicheskikh nauk

The use of chamfer molds in bottom casting. Stal' 15 no.6:520-522
Je '55.
(MIRA 8:8)

1. Zavod "Serp i molot"   (Founding)

PHASE I BOOK EXPLOITATION   1220

Yatsunskaya, O.I., Candidate of Technical Sciences

Rezervy martenovskogo tsekha (Potentials of an Open-hearth Plant) Moscow,
Metallurgizdat, 1958. 31 p. 2,000 copies printed.

Ed.: Lebedev, A.I.; Tech. Ed.: Mikhaylova, V.V.

PURPOSE: The brochure is intended for steel workers and foremen employed in
open hearth and machine building plants.

COVERAGE: The booklet acquaints the reader with the high-production steel making
methods used by outstanding steel workers of the "Serp i Molot"plant. It
shows how the experience in high-production methods acquired by these steel
workers during the Fifth Five-Year-Plan can be introduced effectively on a
large scale. It also points out how the latest production achievements can be
employed to utilize fully the potential of the plant in order to increase
production during the Sixth Five-Year Plan. The goal of the "Serp i molot"
plant is 4 hours and 40 minutes per heat. No personalities are mentioned.
There are 3 Soviet references.

Card 1/2

Potentials of an Open-hearth Plant

1220

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Introduction

AVAILABLE: Library of Congress   (TN740.I18)

Card 2/2

GO/fal
2-24-59

AUTHOR: Yatsunskaya, O.I.   SOV/130-58-7-26/35

TITLE: A Progressive Steel-melter (Stalevar-novator)

PERIODICAL: Metallurg, 1958, nr 7, pp 39 - 40 (USSR)

ABSTRACT: The author gives a brief sketch of the successful career of Anatoliy Stepanovich Subbotin in the melting shop at the "Serp i Molot" Works since 1943. She tabulates data for 1950-54, 1956 and 1957, showing that Subbotin has consistently overfulfilled production plans; except during the changeover to chromite magnesite roofs (1950-54) he has also saved fuel. In 1950, he was among those awarded Stalin prizes. There is 1 table.

Card 1/1   1. Labor--Performance   2. Labor--USSR   3. Steel industry--USSR

YATSUNSKAYA, O.I.; CHERNIKEVICH, L.I.; SMIRNOV, N.A.; GUTNOV, R.B.;
ZUBREV, O.N.

Production of crumbling open-hearth furnace slag. Metallurg
10 no.5:20-21 My '65.
                                          (MIRA 18:6)

1. Metallurgicheskiy zavod "Serp i molot".

AUTHOR   YATSUNSKIY, I.M.

TITLE   On the Influence of Geophysical Factors on the Motion of a Satellite.   53-1a-5/18
            (O vliyanii geofizicheskikh faktorov na dvizheniye sputnika-Russian)

PERIODICAL Uspekhi Fiz.Nauk,1957,Vol 63,Nr 1a,pp 59 - 71 (U.S.S.R.)

ABSTRACT   The author here describes as geophysical factors theair resistance,
            the difference of the field of gravity of the spheroid earth from
            the central field and the difference of the true field of gravity
            from the field of the earth spheroid.The present paper gives an esti-
            mation of the at present possible accuracy with which the influen-
            ce of geophysical factors on the motion of the satellite can be con-
            sidered.The author further discusses the precise determination of
            the field of these forces on the basis of the measurement results
            concerning the orbit of the satellite.The author here calculates the
            orbit of the satellite by the system of differential equations of the
            elliptic osculatory elements known from astronomy.The elliptic os-
            culatory elements completely determine the position of the satellite
            in space and can be calculated by direct integration of the mention-
            ed system of equations,if the perturbations of every point of time
            are known.The method of successive approximations in the case of re-
            latively minor perturbations (to which also belong the perturbations
            caused by the action of geophysical perturbations) furnishes good re-
            sults.

            The deviation of the earth from the sphericalshape:By introducing
            the perturbations into the right sides of the system of equations of
            the osculatory elements and by separate integration of all equations

Card 1/4

On the Influence of Geophysical Factors on the Motion 53-1a-5/18
of a Satellite.

upon a first approximation the changes of the elements of the el-
liptic path are obtained for the time over which the integration
extends.The author here only gives the results of the integration.
Of the six osculatory elements only three $(\mathcal{\Omega}, \omega, \tau)$ undergo secular
perturbations due to the ellipsiod shape of the earth.Because of the
secular members of $\mathcal{\Omega}$ and ω the orbit in the course of time consider-
ably changes its position.The author considers the accuracy with
which the secular deviations of the orbital parameter can be deter-
mined.

The anomalies of the force of gravity: First an expression for the
potential of the anomalies is given in form of a development accor-
ding to spherical harmonics.The expressions obtained by differen-
tiation of these terms in the directions S,T,W are given explicitly.
The number n of its terms can be fairly great,if a satisfactory de-
gree of accuracy is required.But the present absence of accurate
gravimetric data for the entire surface of the earth makes the use
of higher harmonics appear senseless. The changes of osculatory ele-
ments were calculated for one of the possible orbits(average alti-
tude 5oo km) for 5 revolutions.The changes found in this connection
of the osculatory elements are generally of an oscalatory character,
the amplitude of oscillation increasing with time.Some of the devia-
tions amount to noticeably absolute quantities.

Card 2/4

On the Influence of Geophysical Factors on the Motion 53-1a-5/18
of a Satellite.

Air resistance: The author here gives an estimate of the possible
accuracy of the calculation of air resistance.For the region above
150 km only quite inadequate knowledge exists concerning the di-
stribution of density of the altitudes.The author gives various da-
ta of the density in an altitude of 300 km.They are so inaccurate
that one can be mistaken by one order of magnitude.Somewhat more is
known about the density of the atmosphere below 150 km.The whole
matter is reduced to the calculation of secular perturbations of the
parameter p and the excentricity e of the orbit,i,e. to the calcula-
tion of the changes of these quantities for quite a number of re-
volutions.Formulae for acceleration are given.The variations of the
osculatory elements p and e were calculated for various density di-
stributions in the atmosphere and the results are represented in di-
agrams.The changes of the altitudes of the apogee and the perigee
and therewith the lives of the satellites may differ by the 5 to 7
fold in the case of various distributions of densities.The next ar-
ticle discussed the determination of air density,the constants of
the earth ellipsoid and the anomalies of the force of gravity from
the observations of the satellite.At the present stage of knowledge
(i.e. at the time when this Russian paper was written) the errors
committed in connection with predictions concerning the orbit may
Card 3/4   still be great.

YATSUNSKIY, I.M.

"The Effect of Geophysical Factors on Satellite Motion," Uspekhi
Fizicheskikh Nauk, Vol. 63, No. 1-2, p. 82, September 1957.

SO: JPRS Report No. 187

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Changes in the albedo of the first artificial earth satellite
caused by the action of external elements. Isk.sput.Zem.
no.5:71-73 '60.   (MIRA 13:5)
         (Artificial satellites) (Albedo)

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"Izmeneniye chislennosti govoryashchikh na glavneyshikh yazykakh mira i roli etikh yazykov v obshchenii mezhdu narodami v XVIII-XX vv."

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IATSUNSKII, Viktor Kornel'Evich

Transport SSSR; istoriia ego razvitiia i sovremennoe sostoinaie v sviazi s kratkimi svedeniiami po edonom ike transporta. (Transportation in the USSR; the history of its development and present state with data on the ecomomics of transportation). Posobie dl ia uchitelei po izucheniiu transporta. Moskva, Transpechat, 1926. 172 p. maps (1 fold.), tables. Bibliography: p. (139)-140
ICU   DLC: HE255.13

SO: Soviet Transportation and Communications, A Bibliography, Library of Congress, Reference Department, Washington, 1952, Unclassified.

YATSUNSKIY, V.K.

Problems of division into economic districts in V.I.Lenin's works.
Vop.geog. 31:7-30 '53.   (MLRA 7:6)
     (Geography, Economic)

YATSUNSKIY, V.K.

Lenin's ideas in the field of economic geography. Geog.v shkole
no.1:1-9 Ja-F '54.   (MLRA 7:1)
        (Geography, Economic) (Lenin, Vladimir Il'ich, 1870-1924)

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cheskiy redaktor.

[Historical geography; a history of its origin and development
from the 14th to the 18th century] Istoricheskaia geografiia;
istoriia ee vozniknoveniia i razvitiia v XIV-XVIII vekakh.
Moskva, Izd-vo Akad. nauk SSSR, 1955. 328 p. 17 fold. maps
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YATSUNSKIY, V.K., professor, otvetstvennyy redaktor

[Program of a course on the historical geography of the U.S.S.R.]
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    (Geography, Historical)

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The place of historical geographical analysis in the study of
regional geography based on economic geography. Izv.AN SSSR.Ser.
geog. no.3:109-115 My-Je '56.   (MLRA'9:11)

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imeni M.V. Lomonosova.
                (Economic geography)